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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/682,363	08/24/2001	Anthony C. Zuppero	22122878-6	9527

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EXAMINER	
DIAMOND, ALAN D	

ART UNIT	PAPER NUMBER
1753	

DATE MAILED: 05/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/682,363	ZUPPERO ET AL.	
	Examiner	Art Unit	
	Alan Diamond	1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 February 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-37 and 39-58* is/are pending in the application.

4a) Of the above claim(s) *1,3-19 and 47* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20-37,39-46 and 48-58* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 October 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *02062006, 02132006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Comments

1. The objection to claims 20 and 48 has been overcome by Applicant's amendment of the claims.

2. The art rejection over Fletcher in view of Shinohara et al and the art rejection over Few et al in view of JP '101 are moot in view of Applicant's amendment of independent claims 20 and 48.

Election/Restrictions

3. Claims 1, 3-19, and 47 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on September 2, 2005.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 20-37, 39-46, and 48-58 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 20, at line 10, the range "at least partly bounds" is not supported by the specification, as originally filed. The same applies to dependent claims 21-37 and 39-46.

In claim 20, at lines 15-16, the requirement that "the electrical energy being greater than energy input to the emitter to emit hot electrons that initiate the chemical reactions" is not supported by the specification, as originally filed. The same applies to dependent claims 21-37 and 39-46.

In claim 48, at lines 16-17, the requirement that "the electrical energy being greater than energy input to the emitter to emit hot electrons that initiate the chemical reactions" is not supported by the specification, as originally filed. The same applies to dependent claims 49-58,

In claim 50, at line 1, the "one or more" language for the recited electrical energy storage is not supported by the specification, as originally filed.

In claim 50, at line 2, the capacitor, supercapacitor and the battery for storing the electrical energy are not supported by the specification, as originally filed. The battery and supercapacitor are not even mentioned in the originally filed specification. While a capacitor is mentioned in paragraph 0113, it is not used for storing the electrical energy produced by the device.

In claim 52, the "pulse of energy" and the "pulse of chemical reactants" are not supported by the specification, as originally filed.

In claim 52, at line 3, the plural "monopropellants" are not supported by the specification, as originally filed. It is suggested that "monopropellant" be used in its place.

In claim 53, at line 1, the "one or more" language is not supported by the specification, as originally filed.

In claim 53, at line 2, the generic "oxides" (whether plural or singular) and the plural "metals" are not supported by the specification, as originally filed.

In claim 54, the limitation that the conductor includes "a plurality of layers of one or more materials" is not supported by the specification, as originally filed.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 20-37, 39-46, and 48-58 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 20, at line 14, the term "can be" renders the claim indefinite because it is not clear whether the forward bias is converted to electrical energy. It is suggested that said term be changed to "is". The same applies to dependent claims 21-37 and 39-46.

In claim 48, at line 15, the term "can be" renders the claim indefinite because it is not clear whether the forward bias is converted to electrical energy. It is suggested that said term be changed to "is". The same applies to dependent claims 49-58.

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the

unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 20-37, 39-46, and 48-58 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 8-16 of U.S. Patent No. 6,114,620. Although the conflicting claims are not identical, they are not patentably distinct from each other because the stimulation and initiation of reaction in pulses would have been within the skill of an artisan.

10. Claims 20-37, 39-46, and 48-58 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent No. 6,222,116. Although the conflicting claims are not identical, they are not patentably distinct from each other because the stimulation and initiation of reaction in pulses would have been within the skill of an artisan.

11. Claims 20-37, 39-46, and 48-58 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-26 of U.S.

Patent No. 6,268,560. Although the conflicting claims are not identical, they are not patentably distinct from each other because the stimulation and initiation of reaction in pulses would have been within the skill of an artisan.

12. Claims 20-37, 39-46, and 48-58 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 14-37 of U.S. Patent No. 6,649,823. Although the conflicting claims are not identical, they are not patentably distinct from each other because the stimulation and initiation of reaction in pulses would have been within the skill of an artisan.

13. Claims 20-37, 39-46, and 48-58 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-40 of U.S. Patent No. 6,944,202. Although the conflicting claims are not identical, they are not patentably distinct from each other because the stimulation and initiation of reaction in pulses would have been within the skill of an artisan.

14. Claims 20-37, 39-46, and 48-58 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-64, 98-101, and 131-143 of U.S. Patent No. 6,916,451. Although the conflicting claims are not identical, they are not patentably distinct from each other because the stimulation and initiation of reaction in pulses would have been within the skill of an artisan.

15. Claims 20-37, 39-46, and 48-58 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of copending Application No. 10/185,086. Although the conflicting claims are not identical, they are not patentably distinct from each other because the

stimulation and initiation of reaction in pulses would have been within the skill of an artisan.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

16. Applicant's arguments filed February 15, 2006 have been fully considered but they are not persuasive.

Applicant argues that they will submit terminal disclaimers where needed in order to expedite the case into allowance when all other rejections are resolved. However, this argument is not persuasive because there still are other rejections in the case and terminal disclaimers have not yet been received.

Conclusion

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Diamond whose telephone number is 571-272-1338. The examiner can normally be reached on Monday through Friday, 5:30 a.m. to 2:00 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alan Diamond
Primary Examiner
Art Unit 1753

Alan Diamond
April 28, 2006